

(i.e. stop cock 14) having an asymmetrical surface (i.e., binary end), which valve member is rotated to control material flow through a column chamber." The Examiner concludes that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the rotatable valve member of Rigby for axially moveable valve member of the admittedly known system depicted in Figs. 4a and 4b, since this reference valve member is capable of controlling material flow through a column chamber in substantially the same manner as the valve member of the admittedly known system, to produce substantially the same results." In making these assertions and conclusions, the Examiner has made both factual and legal errors, and has not supported a prima facie case of obviousness.

First, the Examiner has made factual errors in his suggestion that the rotatable valve member of Rigby can be substituted for the valves disclosed in the prior art discussed by the Applicant and in his assertion that the Rigby valve member is "capable of controlling material flow through a column chamber in substantially the same manner ... to produce substantially the same results." Rigby discloses a conventional stop cock that is only opened (col. 2, lines 20-22) and closed (col. 2, lines 37-38) to control the flow of a liquid. This limited disclosure and mode of operation is expected since Rigby provides a type of valve intended for isolating a liquid sample in an air free condition (col. 2, lines 38-39). This valve operates in a manner quite distinct from the subject invention. Were the Rigby valve substituted for the valve design of the subject invention, it would render the subject invention inoperable. For example, an important function of the Rigby valve is to prevent liquid egress or gas ingress, that is, to isolate the liquid sample from air. Such a fluid tight seal (the reason for the typical asymmetric design of a stop cock) renders the subject invention inoperable because the subject invention requires a first flow path "partially obstructed" when the rod is in one angular orientation and "opened" in another angular orientation (see page 12, lines 21-22, and page 13, lines 2-3, of the specification).

Second, it is now well settled that the burden of establishing a *prima facie* case of obviousness resides with the Patent and Trademark Office 35 USC § 132; *Ex Parte Skinner*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (B.P.A.I. 1987). To meet this burden, it is incumbent upon the Examiner to show some suggestion or teaching within the Rigby patent, or the art recited by the Applicant, which would lead one skilled in the art to combine the various elements of the now rejected claims. Absent some teaching or suggestion in the Rigby patent, or the art recited by the Applicant, to combine the elements of the now rejected claims, the Examiner cannot possibly hope to meet this burden. As discussed below, since neither the Rigby patent nor the art recited by the Applicant recites such a teaching or suggestion, the Examiner cannot meet the Patent and Trademark Office's burden of establishing a *prima facie* case.

A valve design that alternately partially obstructs and opens a flow path is nowhere mentioned or suggested by Rigby. Rigby does not mention or suggest the use of such a valve in a column-based separations application nor does he mention or suggest the use of a first flow path "partially obstructed" or any means of controlling such an obstruction so as to prevent the inadvertent release of a matrix material.

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves, or in the knowledge generally available to one of ordinary skill in the art. Even if the Rigby valve could somehow be built at the scale contemplated by the subject invention, and somehow operated to produce a partial obstruction with results claimed in the subject disclosure, the Examiner still could not set forth a *prima facie* case of obviousness because neither Rigby nor the art recited by the Applicant recites such a teaching, suggestion, or motivation.

The Examiner has conceded that the rotatable rod having a binary end is not disclosed in the prior art recited by the Applicant. The Applicant notes at the outset that it is precisely this simple design that allows the Applicant's invention to produce a partial obstruction that can be fabricated at very small scales

contemplated by the invention, and that this simple design that in Rigby. Nor does the art recited by the Applicant suggest a rod having a binary end used in the manner and to achieve the result of a rod subject invention. Thus, if the suggestion to combine these features by the found, which is necessary for the Examiner to establish a prima facie suggestion must be found in the Rigby disclosure. Plainly, the Rigby disclosure being totally unconcerned with the problem the subject invention seeks to address, does not remotely suggest such a combination. Therefore, the disclosure suggestion which would lead one skilled in the art to combine these disparate elements is found in the Applicant's disclosure, and relying on the Applicant's disclosure to try to make a prima facie case of obviousness is plainly impermissible, as it is classic hindsight reconstruction.

As set forth by the Federal Circuit in *In Re Fritch*, 972 F.2d 1260, 23 USPQ 2d 1780 (Fed. Cir. 1992):

The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. . . It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that "one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention."

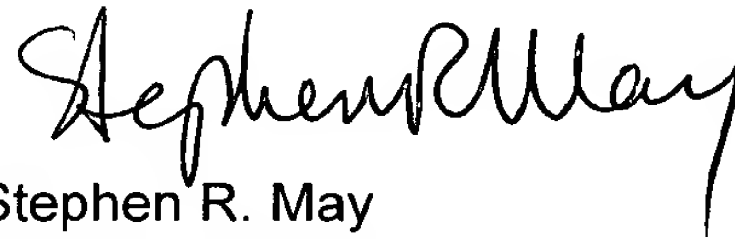
Accordingly, the Examiner has failed to set forth prior art references which teach all of the features necessary to produce the subject invention, and has failed to establish a prima facie case for obviousness. The Examiner has instead ignored or mischaracterized the teachings of the Rigby reference, and has further used such a mischaracterized version of Rigby to engage in impermissible hindsight reconstruction. The Applicant therefore respectfully requests that the Examiner withdraw the rejections of base claims 1, 5, 8, and 17, and accordingly,

withdraw the rejections of claims 2-4, 6-7, and 9-16 which depend from these base claims.

Closure

Applicant has made an earnest attempt to place the above referenced application in condition for allowance and action toward that end is respectfully requested. Should the Examiner have any further observations or comments, he is invited to contact the undersigned for resolution.

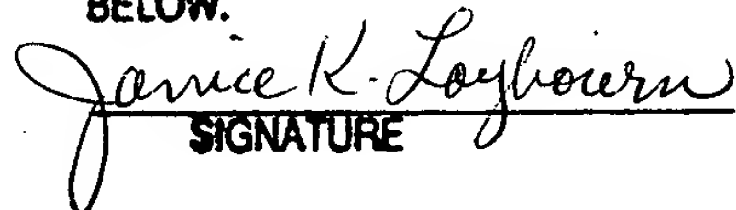
Respectfully submitted,



Stephen R. May  
Reg. No. 29,255

Stephen R. May K1-53  
Intellectual Property Services  
Battelle Memorial Institute  
Pacific Northwest Division  
P.O. Box 999  
Richland, WA 99352  
(509) 375-2387

THE UNDERSIGNED HEREBY CERTIFIES THAT THIS  
CORRESPONDENCE IS BEING DEPOSITED WITH THE  
UNITED STATES POSTAL SERVICE AS FIRST CLASS  
MAIL IN AN ENVELOPE ADDRESSED TO:  
ASSISTANT COMMISSIONER FOR PATENTS,  
WASHINGTON D.C., 20231, ON THE DATE SET FORTH  
BELOW.

 1/8/2001  
SIGNATURE DATE